



Extreme Events in China under Climate Change: Uncertainty and related impacts (CSSP-FOREX)

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Suitable adaptation strategies or the timely initiation of related mitigation efforts in East Asia will strongly depend on robust and comprehensive information about future near-term as well as long-term potential changes in the climate system. Therefore, understanding the driving mechanisms associated with the East Asian climate is of major importance.

The FOREX project (Fostering Regional Decision Making by the Assessment of Uncertainties of Future Regional Extremes and their Linkage to Global Climate System Variability for China and East Asia) focuses on the investigation of extreme wind and rainfall related events over Eastern Asia and their possible future changes. Here, analyses focus on the link between local extreme events and their driving weather systems. This includes the coupling between local rainfall extremes and tropical cyclones, the Meiyu frontal system, extra-tropical teleconnections and monsoonal activity. Furthermore, the relation between these driving weather systems and large-scale variability modes, e.g. NAO, PDO, ENSO is analysed. Thus, beside analysing future changes of local extreme events, the temporal variability of their driving weather systems and related large-scale variability modes will be assessed in current CMIP5 global model simulations to obtain more robust results.

Beyond an overview of FOREX itself, first results regarding the link between local extremes and their steering weather systems based on observational and reanalysis data are shown. Special focus is laid on the contribution of monsoonal activity, tropical cyclones and the Meiyu frontal system on the inter-annual variability of the East Asian summer rainfall.